Hawaiian Electric Company and
Rebuild Hawaii Consortium present:

Sustainable Design Tools | Workshop Series

Design professionals in Hawaii are seeing an increase in client demand for energy-efficient and sustainable buildings. The Sustainable Design Tools Workshops are a series of one-day technical courses designed to equip architects and engineers with tools to meet these new demands. This series consists of four workshops on topics that are directly applicable to sustainable design:

One workshop will be held every other month from January through July 2004.

HEI Training Room
8th Floor,
American Savings Bank Building
(Corner of S. King St. and Alakea St.)

Program Hours
8:00 am to 4:00 pm

January 29, 2004
Daylighting and Lighting Controls
Joel Loveland, BetterBricks Daylighting Lab

March 18, 2004
Indoor Air Quality Mitigation Through Design
Joe Lstiburek, Building Science Corporation

May 20, 2004
Building Energy Simulation for Sustainable Design of Buildings
Michael Hatten, SOLARC Architecture and Engineering, Inc.

July 8, 2004
Energy Management Controls: A Guide to Understanding and Specifying Next Generation DDC Systems
Jack Mc Gowan, Energy Control, Inc.

Hawaiian Electric Company, Inc.
Giving you the power

Rebuild Hawaii

School of Architecture
University of Hawai`i

DBEDT
THE DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM
STATE OF HAWAII

U.S. Dept. of Energy
Rebuild America

Sustainable Design Tools | Workshop Series

Daylighting and Lighting Controls — January 29, 2004

JOEL LOVELAND, *Director*
BetterBricks Daylighting Lab Seattle, operated by the University of Washington
Associate Professor, Department of Architecture, University of Washington

This is a day of lectures and hands-on experimentation. You will learn about the barriers to using daylight and how to overcome them by selecting the most effective marketing strategies — daylighting design as a critical component to increase workplace performance.

You will hear about getting over the myths, getting down to the business of design decision making. You will learn WHAT daylight and daylighting design is and isn't, HOW to develop the best daylighting design strategies for siting your building, developing its basic organization and massing, shaping the room and its windows, forming the skin, and integrating the electric lighting. Lastly, the best design tools for making and assessing the results of these decisions will be reviewed.

Indoor Air Quality Mitigation Through Design — March 18, 2004

JOSEPH LSTIBUREK, *B.A.Sc., M.Eng., Ph.D., P.Eng., Principal Building Science Corporation.*

In tropical and hot and humid climates, moisture and related indoor air quality problems have become a major source of lost revenues, management frustration, litigation, image problems, lost clients, and related health problems. The building envelope and mechanical systems interact with and influence interior environmental conditions with serious consequences. In this seminar industry practices are challenged and turned on their head.

Delivered by an engineer with a sense of humor, this session will prove to be highly interactive and relevant. Clear methodologies for effectively and rapidly solving building envelope moisture and indoor air quality problems will be presented. Learn how to modify standard diagnostic, design, commissioning, inspection and testing and balancing procedures to identify problems. Attendees will learn problem-solving techniques that can be implemented immediately. Building problems and their solutions will be related to operational concerns and monetary constraints. Case studies will be utilized to illustrate the key issues.

JOEL LOVELAND
Director, BetterBricks Daylighting Lab Associate Professor, Department of Architecture, University of Washington

Joel Loveland is the daylighting consultant with the Pacific Northwest Lighting Design Lab, operated by University of Washington. A graduate in the professional architecture degree programs of Arizona State and UCLA, Joel is currently an Associate Professor in the Department of Architecture and Adjunct Associate Professor in the Department of Landscape Architecture at the University of Washington, where he teaches design studio and courses related to sustainability, the nature of light, landscape, and architecture. Most recently he held the 1998 Baker Chair of Architectural Lighting at the University of Oregon. He is also co-author of the Second Edition of Inside-Out, Handbook for Passive Environmental Controls.

JOSEPH LSTIBUREK
B.A.Sc., M.Eng., Ph.D., P.Eng., Principal, Building Science Corp.

Dr. Lstiburek is a forensic engineer who investigates building failures and is internationally recognized as an authority on moisture related building problems and indoor air quality. He is the past chairman of ASTM E241 - Increasing the Durability of Building Assemblies from Moisture Induced Damage and a contributor and reviewer of Chapters 21 and 22 of ASHRAE Fundamentals. He is the author of the U.S. DOE Handbook on Moisture Control and a special contributor to the EPA guidance document on Building Air Quality: A Guide for Building Owners and Facility Managers.

Dr. Lstiburek has written numerous books and technical papers on building construction and has conducted forensic investigations and served as an expert witness on building failures all over the U.S. He is an expert in the areas of rain penetration, air barriers, vapor barriers, air quality, durability and construction technology. He specializes in mold and microbial contamination of buildings.

Sustainable Design Tools | Workshop Series

Building Energy Simulation for Sustainable Design of Buildings

May 20, 2004

MICHAEL HATTEN, *PE*
SOLARC Architecture and Engineering, Inc.

This course will introduce architects and engineers to basic energy simulation concepts and approaches that can be used to evaluate building designs while still on the boards, or even before they are on the boards! Integration of design tools such as energy simulation into the design process can impact the design in ways that result in improved efficiency, increased comfort, and reduced costs. Concepts for design process integration, that apply to all energy simulation software, will be discussed.

This course will specifically demonstrate one of the state-of-the art energy simulation tools – eQUEST. eQUEST is a windows-version of DOE2.2 – a hour-by-hour simulation tool that can model daylighting, commercial refrigeration, detailed geometry, solar shading,, and sophisticated mechanical system concepts. The Building Creation Wizard – a feature of eQUEST that allows quick models to be generated at early design stages – will be demonstrated. In addition, more sophisticated designs involved detailed input will also be used as workshop examples. All participants will receive a CD with the current version of eQUEST, software documentation, and relevant Hawaii weather files.

Energy Management Controls: A Guide to Understanding and Specifying Next Generation DDC Systems

July 8, 2004

JOHN J. "JACK" MC GOWAN, *CEM*
Energy Control, Inc.

Design Professionals are being challenged daily to understand and specify Direct Digital Control (DDC) systems that meet owners needs to optimize building operations, manage energy costs and can be integrated with other building special systems such as fire, access security, video surveillance and information technology. This seminar will provide the design professional with information that is critical to assisting customers with these critical facility decisions.

Building automation, Internet-based energy services and information technology are converging. Internet-enabled energy offerings and product features are overwhelming owners, users and engineers. The seminar provides a primer on DDC for building automation plus a tutorial on hardware, software and an introduction to Internet enabled energy control systems that designers must understand. It provides an overview of trends and essential knowledge to evaluate DDC, HVAC, building automation and open system products. This seminar covers critical data to assist in evaluating Internet-based building control technology as part of a management tool for full-scale system integration.

MICHAEL HATTEN
PE, SOLARC Architecture and Engineering, Inc.

Michael Hatten, P.E. is a principal with the innovative Oregon consulting firm–SOLARC Architecture and Engineering inc. He is a mechanical engineer, educator, and energy analyst who is nationally recognized for his expertise in building energy efficiency.

Michael combines a design, analysis, and training background in his roles as project manager and project engineer. His reputation as a leader in energy efficiency has grown from his wide-ranging body of efficiency project experience. He has conducted analysis efforts on well over 30,000,000 square feet of residential, commercial, and industrial space.

In recognition of his contributions to furthering sustainable design excellence in the Pacific Northwest, Michael was recently recognized with the 2003 BetterBricks engineering award.

JOHN J. "JACK" MC GOWAN
CEM, Energy Control, Inc.

Mr. Mc Gowan is President of Energy Control, Inc. (ECI), a System Integration and Energy Service Company specializing in value-based real-time technologies and services. ECI was named one of the Top 100 System Integrators in North America in 2003 and focuses on merging traditional energy automation with Internet Digital Control™ solutions to integrate multiple systems via the Internet.

Mc Gowan published five books and 125+ articles on building automation, business and technical topics. He develops and teaches seminars in the U.S. for Association of Energy Engineers and Southeast Asia Centre for Management Technology and worldwide over the Internet with www.automatedbuildings.com. He also teaches at the University of Phoenix and University New Mexico.

Mc Gowan sits on the Technical Advisory Board of Energy User News and publishes a regular column in that journal called Energy Online.

Sustainable Design Tools | **Workshop Series**

☐ YES! Please register me for the Sustainable Design Tools | **Workshop Series**.

Mr./Ms. First Name _____ Last Name _____

Title _____ Affiliation _____

Address _____

City _____ State _____ Zip _____

Phone _____ Fax _____ Email _____

Occupation:
__ Architect __ Engineer __ Facility Manager
__ Nonprofit Organization __ Energy/Sustainability __ Contractor/Builder
__ Product Manufacturer __ Developer __ Other: _____

What do you need most out of these workshops? _____

SPACE IS LIMITED. REGISTER BY JANUARY 15, 2004

Registration Fees

Workshop Series (4 classes): $300 (Lunch included)
To qualify for Series discount price, full registration fee must be received no later than January 15, 2004.

Individual Workshops: $99/workshop

- ☐ **January 29, 2004**
  Daylighting and Lighting Controls
- ☐ **March 18, 2004**
  Indoor Air Quality Mitigation Through Design
- ☐ **May 20, 2004**
  Building Energy Simulation for Sustainable Design of Buildings
- ☐ **July 8, 2004**
  Energy Management Controls: A Guide to Understanding and Specifying Next Generation DDC Systems

Payment for individual workshops will be due 2 weeks prior to course date. Fees includes workshop, materials, lunch and break refreshments.

Payment

Make check payable to Hawaiian Electric Company, Inc.

Total Amount Enclosed: _____

Refunds are limited to 80% and must be requested in writing no later than 1/15/04. No refunds will be made after this date. Registration attendee substitutions may be made by calling Marsha at 808/543-4743.

Send registration to: Marsha Saiki CP12-SD
Hawaiian Electric Company
P.O. Box 2750 • Honolulu, Hawaii 96840

Phone: 808/543-4743 • Fax: 808/543-4722
Email: marsha.saiki@heco.com

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